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A KEY FOR THE SEPARATION OF THE INDO-AUSTRALIAN AND AFRICAN SPECIES OF THE GENUS *EUPLOEA* F. (LEP. DANAIDAE)

By A. Steven Corbet, D.Sc., Ph.D., F.I.C., F.R.E.S.

(*British Museum, Natural History.*)

The examination of the types and descriptions of the *Euploea* species denominated by the Felders and by Boisduval and the analysis of the descriptions of the Godart species which have been carried out by Mr. G. Talbot (Talbot, 1943, *Proc. R. ent. Soc. Lond.* (B) **12** : 6) have elucidated practically all the outstanding difficulties concerned with the classification and nomenclature of this difficult genus. It has been possible also to examine the male genitalia of the remaining species outside the Indo-Malayan region so that the present classification rests on a firm foundation. The key which follows deals with the males and includes all the known *Euploea* species except *E. rogeri* (Geyer), 1837, and *E. blossomae* Schaus, 1929. The former was described from the Seychelles and is known only from Geyer's figure of the female. Schaus' species is founded on a unique male from Mindanao (type in U.S. National Museum) and its affinities cannot be recognised from the description : it may even represent an additional group.

The results obtained by Mr. Talbot have necessitated a few changes in my previous paper on the genus (Corbet, 1942, *Ann. Mag. nat. Hist.* (11) **9** : 253) : *algea* (Godart) is the oldest name for the *swainsoni* complex and *E. algea* should be used for the species referred to previously as *E. eleutho*; *algea* was described from Amboina, and *duponchelii* Boisduval falls as a synonym. The true type specimen of *helcita* Boisduval is a male representing the subspecies of *Euploea algea* from New Caledonia (= *whitmei* Butler) : the oldest name for the species hitherto known as *E. helcita* is *E. lewinii* C. & R. Felder. *E. redtenbacheri* C. & R. Felder replaces *E. leachii*, the latter being an exact synonym. *E. morosa* Butler should replace *E. dalmanii* C. & R. Felder in my previous paper, the latter name referring to a race of *E. algea*. *E. netscheri* Snellen should be used in place of *E. melanopa* Röber, the latter being a synonym of *lapeyrousei* Boisduval. The forms *nubaida* (Grose-Smith) and *honesta* (Butler) have been found to be races of *E. latifasciata* Weymer and *E. batesii* C. & R. Felder respectively. Examination of further material by Mr. Talbot has shown that *E. modesta buxtoni* Moore is a good race from South Sumatra and not a Siamese form as I had supposed.

Key for the separation of groups.

1(14). F with a recurrent vein in cell.
2(9). ♂ upH without a pale raised patch in cell area.
3(4). ♂ upF without a brand . . . . . *climena* group.
4. ♂ upF with one or two brands in space 1b.
5(6). ♂ upF with a single brand . . . . . *core* group.
6. ♂ upF with two brands.
7(8). F termen curved as usual. ♂ upF anterior brand nearly as long as posterior brand . . . . . *sylvester* group.

8. F termen outwardly concave in middle. ♂ upF anterior brand much shorter and narrower than posterior brand . . . . *martinii* group.
9. ♂ upH with a pale yellow or buff raised patch in cell area.
10(11). ♂ upF without a brand . . . . . *mulciber* group.
11. ♂ upF with a single brand in space 1b. ♂ F dorsum strongly curved.
12(13). F termen outwardly concave . . . . . *gamelia* group.
13. F termen curved as usual . . . . . *treitschkei* group.
14. F without a recurrent vein in cell.
15(16). ♂ upH without a prominent pale raised patch in cell area. ♂ upF with a single brand in space 1b : F dorsum strongly bowed *eleusina* group.
16. ♂ upH with a prominent pale yellow (white in *diocletianus*) raised patch extending into the cell.
17(20). ♂ upF without a brand.
18(19). ♂ upH pale yellow raised patch not extending below middle of cell. ♂ F dorsum strongly bowed . . . . . *tulliolus* group.
19. ♂ upH pale yellow raised patch extending to within 1 or 2 mm. of median vein. ♂ F dorsum bowed . . . . . *phaenareta* group.
20. ♂ upF with a single brand in space 1b. . . . . *midamus* group.

Key for the separation of species of the *climena* group (sub-genus *Vonona* Moore).

1(4). ♂ upH without a speculum, *i.e.* wing uniformly coloured below subcostal vein and vein 7. ♂ F dorsum straight.
2(3). ♂ unF with a pale, narrow, elongate stripe in anterior portion of space 1b; whole of space 1b darkened, except anterior edge of vein 1 . . . . . *E. euphon* (Fabricius), 1798. (Mascarene Is.)
3. ♂ unF with space 1b unmarked, except for narrow area in space 1a extending into space 1b along central portion of vein 1. ♂ upF deep velvety blackish-brown; H paler, with termens broadly paler *E. doretta* Pagenstecher, 1894. (Bismarck Archipelago)
4. ♂ upH with a speculum, *i.e.* at least anterior portion of cell and basal portions of spaces 5 and 6 differently coloured to rest of wing.
5(22). ♂ upH speculum not blackened, and not containing wedge-shaped, fringed, androconial scales.
6(7). F with the white spot in space 3 much larger than any other spot. ♂ unF with obscure, pale, narrow, elongate stripe in anterior half of space 1b; posterior edge of space 1b and whole of space 1a pale and nacreous. ♂ F falcate, dorsum straight *E. lewinii* C. & R. Felder, 1865. (New Hebrides to Cook Is.)
7. F with the white spot in space 3, when present, not much larger than any other spot. ♂ F not falcate.
8(9). ♂ upH space 7 more strongly whitened than contiguous spaces. ♂ unF with the whole of space 1a and often posterior edge and distal area of space 1b strongly whitened; in eastern races often with a narrow elongate pale stripe in anterior half of space 1b. ♂ F dorsum almost straight . . . . . *E. climena* (Stoll), 1782. (Engano and Java to Bismarck Archipelago)
9. ♂ upH space 7 not more strongly whitened than contiguous spaces.
10(13). ♂ upH pale greyish speculum extending to middle of cell; in some forms almost to the median vein. ♂ unF posterior half of space 1b paler and nacreous. ♂ F strongly bowed.

11(12). ♂ unF with a single pale, narrow, elongate stripe in anterior half of space 1b; posterior half of space 1b with a prominent pale yellow specialised area (greyish buff in Java and eastwards). ♂ upH with a pale yellow raised streak above the cell (obsolete in Java and eastwards). In western races, ♂ unH with a thick dark patch visible by transmitted light . . . . . *E. modesta* Butler, 1866.
(Burma to Bismarck Archipelago)

12. ♂ unF with two moderately long and broad blackish stripes in space 1b, the two arranged to form a parallelogram, with the anterior distal edge nearer the termen; otherwise posterior half of space 1b and whole of space 1a greyish-white . . . . *E. crameri* Lucas, 1853.
(Burma to Malaysia)

13. ♂ upH speculum not extending to beyond the anterior portion of cell.

14(19). ♂ unF with not more than a single narrow stripe in space 1b.

15(16). F termen straight and slightly crenulate. ♂ F apex rather pointed. ♂ F dorsum strongly bowed, except in Celebes, where it is almost straight . . . . . *E. redtenbacheri* C. & R. Felder, 1865.
(Burma to Celebes and Moluccas)

16. F termen rounded and not crenulate. ♂ F apex rounded. ♂ upH speculum paler and more extensive than in *E. redtenbacheri*. ♂ F dorsum straight (*E. latifasciata*) or almost straight (*E. eboraci*).

17(18). F with no trace of white submarginal spotting. Up with white fasciae or unmarked. F usually >40 mm. *E. latifasciata* Weymer, 1885.
(Celebes and Moluccas)

18. UnF with white submarginal spots. F <40 mm. ♂ up dark brown, almost unmarked; superficially very like *E. modesta cerberus* Butler
E. eboraci (Grose-Smith), 1894.
(Bismarck Archipelago)

19. ♂ unF with two narrow stripes in space 1b.

20(21). ♂ upH vein 1 with a row of hairs directed towards the inner margin. ♂ upH with a strongly darkened triangular subtornal patch. ♂ unF with a pale narrow elongate stripe in the anterior half of space 1b and a large, broad, rather oval, pale stripe, also in space 1b, extending along the anterior margin of vein 1. ♂ F dorsum straight
E. wallacei C. Felder, 1860.
(Moluccas and New Guinea)

21. ♂ upH vein 1 not hairy. ♂ unF with an elongate stripe in the anterior half of space 1b and a narrower stripe below it, these stripes pale or dark . . . . . *E. batesii* C. & R. Felder, 1865.
(Moluccas to Solomon Is.)

22. ♂ upH speculum blackened and with wedge-shaped, fringed, androconial scales. ♂ unF with a long pale stripe in anterior portion of space 1b; and posterior portion of space 1b and the whole of space 1a nacreous, although vein 1 is broadly whitened and above the whitened area in space 1b is a broad blackened stripe. ♂ F dorsum bowed . . . . . *E. alcathoe* (Godart), 1819.
(Moluccas to New Guinea and Australia)

Key for the separation of species of the *core* group (s.g. *Crastia* Hübner).

1(14). ♂ unF with whole of space 1a and at least posterior portion of space 1b pale and nacreous.

2(3). ♂ upH uniformly dark brown below vein 7 and subcostal vein, except for paler marginal area; no speculum. ♂ upF brand narrow and elongate, extending well beyond the origin of vein 2; brand situated within 1 mm. of vein 1. ♂ F dorsum straight *E. lacon* (Grose-Smith), 1894.
(Biak and New Britain)

3. ♂ upH with a speculum in anterior half of wing.
4(13). ♂ upH speculum not nacreous and not extending below middle of cell.
5(10). ♂ upF brand not to below origin of vein 2.
6(7). F < 45 mm. ♂ F strongly bowed, except in India, where almost straight . . . . . *E. core* (Cramer), 1780.
(Ceylon to Australia and Bismarck Archipelago, excluding Formosa, Borneo, Paramalaya, Philippines and Moluccas)
7. F > 45 mm.
8(9). ♂ upF deep velvety black, unmarked. ♂ F dorsum straight *E. magou* Martin, 1912.
(Celebes)
9. ♂ upF and H with white submarginal spots, those on H outwardly dentate. ♂ F dorsum slightly bowed *E. dentiplaga* Rothschild, 1915.
(Ceram)
10. ♂ upF brand to below origin of vein 2.
11(12). ♂ upF brand < 3 mm. broad. ♂ F dorsum bowed . . *E. algea* complex.
i. Philippines and Palawan. Up with white marginal and submarginal spots on both wings . *E. swainsoni* (Godart), 1824.
(Philippines and Palawan)
ii. Not in Philippines. UpF almost unspotted in Malaysia, including Palawan . . . . . *E. algea* (Godart), 1819.
(Sikkim to Oceania, excluding Formosa and Philippines)
12. ♂ upF brand very broad, 4–6 mm. ♂ F dorsum strongly bowed *E. nechos* Mathew, 1887.
(Solomon Is.)
13. ♂ upH speculum nacreous and extending almost to median vein. ♂ upF brand elongate and lenticular and almost to below origin of vein 2. ♂ F dorsum strongly bowed . . . *E. mitra* Moore, 1857.
(Seychelles)
14. ♂ unF whole of space 1b darkened.
15(16). ♂ upH speculum greyish-buff and without wedge-shaped fringed androconial scales. ♂ upF brand rather elongate and narrow, somewhat lenticular, and edges not clearly defined. ♂ F dorsum strongly bowed . . . . . *E. tobleri* Semper, 1878.
(Philippines)
16. ♂ upH speculum blackened and with wedge-shaped, fringed, androconial scales. ♂ F dorsum bowed.
17(20). ♂ upH whole or almost whole of cell blackened.
18(19). ♂ upH blackened speculum extending to median vein. ♂ upF brand long and broad . . . . . *E. boisduvalii* Lucas, 1853.
(Solomon Is., New Hebrides and Fiji Is.)
19. ♂ upH blackened speculum extending to within 2 mm. of median vein. ♂ upF brand rather elongate and narrow *E. doubledayi* complex.
i. F > 47 mm. ♀ upF with white discal spots *E. doubledayi* C. & R. Felder, 1865.
(Sikkim to Malaya)
ii. F < 47 mm. Up paler and unmarked in both sexes *E. eyndhovii* C. & R. Felder, 1865.
(Indo-China and Malaysia)
20. ♂ upH blackened speculum not extending beyond anterior edge of cell.
21(24). ♂ upF brand long and rather narrow, mid-way between below origin of vein 2 and termen.
22(23). Up both wings deep chocolate-brown, termens broadly paler, unmarked *E. netscheri* Snellen, 1889.
(New Guinea)

23. Up both wings deep chocolate-brown, with white submarginal fasciae, divided by darkened veins . . . . . *E. eurianassa* Hewitson, 1858.
(New Guinea)

24. ♂ upF brand short and lenticular and near termen, its outer edge 5 mm. from termen. UpF deep velvety brown, F and H unmarked
E. morosa Butler, 1886.
(Moluccas and New Guinea)

Key for the *sylvester* group (s.g. *Stictoploea* Butler).

♂ upH without an extensive buff speculum. ♂ F dorsum nearly straight . . . . . *E. sylvester* (Fabricius), 1793.
(Ceylon to Australia, New Hebrides and New Caledonia)

Key for the *martinii* group.

♂ upH with a shining buff speculum extending from below costal nacreous area to upper portion of cell. ♂ F dorsum strongly bowed
E. martinii de Nicéville, 1893.
(Sumatra)

Key for the separation of species of the *mulciber* group (s.g. *Trepsichrois* Hübner).

1(2). ♂ upH with a small, pale yellow, wedge-shaped raised patch confined to, or almost confined to, anterior portion of cell. ♂ F dorsum slightly curved. ♂ upH speculum with long, club-shaped, androconial scales, with edges fringed (absent in form from Celebes). ♂ upF blue with submarginal spots; ♀ *Danaus*-like
E. mulciber (Cramer), 1777.
(South India to Philippines and Celebes)

2. ♂ upH with a narrow elongate pale yellow raised patch extending from below vein 8 to anterior portion of cell. ♂ F dorsum strongly bowed. ♂ upH speculum without long androconial scales. ♂ upF dark brown, immaculate. ♀ unknown
E. albicosta Joicey & Noakes, 1915
(Biak)

Key for the *gamelia* group (s.g. *Anadara* Moore).

♂ upH with a yellowish-buff lenticular raised patch confined to anterior portion of cell. ♂ upF brand short and broad, not to below origin of vein 2. UpH without white post-discal spots
E. gamelia (Hübner), 1825.
(Java)

Key for the *treitschkei* group (s.g. *Saphara* Moore).

♂ upH with a buff-brown raised patch not confined to cell. ♂ upF brand small, not extending to below origin of vein 2. UpH with white, post-discal spots . . . . . *E. treitschkei* Boisduval, 1832.
(New Guinea to Bismarck Archipelago and New Caledonia)

Key for the separation of species of the *eleusina* group (s.g. *Selinda* Moore).

1(2). ♂ upF brand pale bluish-white, moderately long and narrow extending to below origin of vein 2. ♂ upH costal nacreous area extending to vein 6, often to space 5. UpF with pale bluish-white submarginal spots . . . . . *E. eleusina* (Cramer), 1780.
(Java and Celebes)

2. ♂ upF brand violaceous, circular and not to below origin of vein 2, and constituting terminal spot of a post-discal fascia of interneural white spots. ♂ upH costal nacreous area to space 5
E. asyllus Godman & Salvin, 1888.
(Solomon Is.)

Key for the *tulliolus* group (s.g. *Calliploea* Butler).

F < 40 mm. ♂ genitalia normal . . . . . *E. tulliolus* complex.
(i) UpF apical half blue- or purple-blue-washed, with white or pale violaceous submarginal spots; no large spot at base of space 2 . . . . . *E. tulliolus* (Fabricius), 1793.
(Indo-China to Australia and New Hebrides)
(ii) UpF blue-glossed and submarginal spots as in (i), but with a large white spot at the base of space 2
E. hewitsonii C. & R. Felder, 1865.
(Celebes)
(iii) UpF brown (whitish-violet in some forms), with much reduced spotting . . . . . *E. stephensii* C. & R. Felder, 1865.
(Moluccas to Bismarck Archipelago)
(iv) UpH with large white submarginal spots or a broad white submarginal border . . . *E. darchia* (W. S. Macleay), 1826.
(Timor to Australia)

Key for the *phaenareta* group (s.g. *Euploea* Fabricius).

F > 45 mm. Saccus and aedeagus remarkably short
E. phaenareta (Schaller), 1785.
(Ceylon to Bismarck Archipelago and Solomon Is.)

Key for the separation of species of the *midamus* group (s.g. *Salpinx* Hübner).

1(6). UpF distal end of cell not whitened. ♂ F dorsum strongly bowed.
2(3). ♂ upF brand long and narrow, with basal end almost below origin of vein 2. Clasper with distal edge excavated; aedeagus curved
E. midamus (L.), 1758.
(North India to Philippines)
3. ♂ upF brand shorter, broader and lenticular or rounded, with basal end far removed from below origin of vein 2. Clasper with distal edge convex.
4(5). ♂ upF brand usually only slightly paler than the ground. Aedeagus sharply bent about one-third from distal end. UpF marginal spots always present; submarginal spots usually white, violet tinged in some races . . . . . *E. klugii* Moore, 1857.
(Ceylon to North Malaya; Hainan)
5. ♂ upF brand pale bluish-white in western races. Aedeagus curved. UpF usually without marginal spots; pale blue submarginal spots in Indo-Malayan races . . . . . *E. leucostictos* complex.
i. UpF without an orange-brown oval patch
E. leucostictos (Gmelin), 1790.
(Burma to New Hebrides and Fiji Is., excluding Aru Is.)
ii. UpF with a large, orange-brown oval patch in inner area
E. usipetes Hewitson, 1858.
(Aru Is. and New Guinea to Australia and Bismarck Archipelago)
6. UpF with distal end of cell broadly whitened. ♂ upF brand rather short and ovate, pale blue in Indo-Malayan races. ♂ F dorsum bowed . . . . . *E. diocletianus* (Fabricius), 1793.
(Sikkim to Celebes)

NOTES ON THE GENERIC NOMENCLATURE OF THE LEPIDOPTERA RHOPALOCERA, II

By Francis Hemming, C.M.G., C.B.E., F.R.E.S.

The following notes have been made in the course of recent work on the generic nomenclature of the Lepidoptera Rhopalocera.

(*a*) Genera of which the types are here designated for the first time.

Danaidae.

Amaura Geyer.

Geyer, 1837, *in* Hübner, *Zutr. z. Samml. exot. Schmett.* **5** : 39.

Type : *Danais phedone* Godart, [1819].

The name *Amaura* Geyer, though available nomenclatorially, is not required since *Danais phedone* Godart (which is a synonym of *Papilio phaedon* Fabricius, 1798) is congeneric with *Papilio niavius* Linnaeus, 1758, the type of *Amauris* Hübner, 1816.

Satyridae.

Aeropetes Billberg.

Billberg, 1820, *Enum. Ins.* : 79.

Type : *Papilio tulbaghia* Linnaeus, 1764.

This name must now replace *Meneris* Doubleday, 1844 (*List Spec. lep. Ins. B.M.* **1** : 106), of which the same species is the type.

Antirrhaea Boisduval.

Boisduval, 1870, *Consid. Lépid. Guatemala* : 61.

Type : *Papilio philoctetes* Linnaeus, 1758.

The above is the first of the two species placed in this genus by Boisduval, who expressly claimed to be its author. The name is invalid, since under Article 35 of the International Code it falls as a homonym of *Antirrhea* Hübner, [1822]. Even if this were not so, the name would not be required, since *Papilio philoctetes* Linnaeus is congeneric with *Antirrhea archaea* Hübner, [1822], the type of *Antirrhea* Hübner, [1822].

Argyronympha Mathew.

Mathew, 1886, *Proc. zool. Soc. Lond.* **1886** : 346.

Type : *Argyronympha pulchra* Mathew, 1886.

Catargynnis Röber.

Röber, 1892, *in* Schatz, *in* Staudinger & Schatz, *Exot. Schmett.* **1** (Th. 2) (6) : 284 *nota*.

and

Pseudomaniola Röber.

Röber, 1892, *in* Schatz, *in* Staudinger & Schatz, *Exot. Schmett.* **1** (Th. 2) (5) : 222.

Type : *Daedalma pholoë* Staudinger, 1887.

The above is the first of the two species placed by Röber (who designated no type) in the genus *Pseudomaniola* Röber. When later in the same year Röber realised that this name was pre-occupied by *Pseudomaniola* Weymer, 1890 (*in* Weymer & Maassen, *in* Reiss & Stübel, *Reisen Sud-Amer. Lep.* : 107), he replaced it by the name *Catargynnis* Röber but again did not designate a type. As this latter name is no more than a nom. nov. pro *Pseudomaniola* Röber, its type must be whatever species is the type of that genus. *Daedalma pholoë* Staudinger thus becomes the type of both genera.

Elymnias Hübner.

Hübner, 1818, *Zutr. z. Samml. exot. Schmett.* **1** : 12.
id., [1819], *Verz. bek. Schmett.* (3) : 37.

Type : *Elymnias jynx* Hübner, 1818.

Hitherto this genus has been regarded as having been first published by Hübner in the *Verz. bek. Schmett.*, but I have shown (Hemming, 1937, *Hübner* **2** : 185) that in fact it was first published in volume 1 of the *Zuträge*. In consequence the selection by Scudder (1875, *Proc. Amer. Acad. Arts Sci.* **10** : 162) of *Papilio lais* Cramer, [1777], as the type is invalid, that species not being cited in this genus by Hübner in the *Zuträge*.

In the *Zuträge* Hübner placed in this genus what he regarded as two species : (1) *Elymnias jynx* Hübner, which he had already named *Hamadryas jynx* (*see* Hemming, 1937, *Hübner* **1** : 463) and (2) *Papilio protogenia* Cramer, [1777], the first of which is here selected as the type. Although this genus was not monotypical from the standpoint of its author, Hübner did in fact only place one species in it in the *Zuträge*, since *Elymnias jynx* Hübner is a synonym of *Papilio undularis* Drury, [1773], a subspecies of *Papilio hypermnestra* Linnaeus, 1763, while *Papilio protogenia* Cramer is a synonym of nominotypical *Papilio hypermnestra* Linnaeus.

Elymniopsis Fruhstorfer.

Fruhstorfer, 1907, *Deuts. ent. Z. Iris* **20** : 171, 173–174.

Type : *Papilio phegea* Fabricius, 1793.

Eretris Thieme.

Thieme, 1905, *Berl. ent. Z.* **50** : 131.

Type : *Pronophila decorata* Felder & Felder, 1867.

Manerebia Staudinger.

Staudinger, 1897, *Deuts. ent. Z. Iris* **10** : 139–143.

Type : *Manerebia cyclopina* Staudinger, 1897.

Pieris Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (4) : 53.

Type : *Pieris dracontis* Hübner, [1819].

This is one of a considerable number of generic names originally published by other authors (in this case by Schrank) which Hübner republished in an entirely different sense. The name *Pieris* Hübner is invalid, since it is a homonym of *Pieris* Schrank, 1801 (*Fauna boica* **2** (1) : 152, 161). It does not require to be replaced, since *Pieris dracontis* Hübner is congeneric with *Papilio nereis* Drury, [1782], the type of *Pierella* Westwood, [1851].

Pseudomaniola Weymer.

Weymer, 1890, *in* Weymer & Maassen, *in* Reiss & Stübel, *Reisen Sud-Amer. Lep.* : 107.

Type : *Pseudomaniola euripides* Weymer, 1890.

Pseudosteroma Weymer.

Weymer, [1912], *in* Seitz, *Grossschmett. Erde* **5** (113) : 241.

Type : *Steroma pronophila* Felder & Felder, 1867.

Steremnia Thieme.

Thieme, 1905, *Berl. ent. Z.* **50** : 137.

Type : *Pedaliodes* (?) *polyxo* Godman & Salvin, 1880.

Thiemeia Weymer.

Weymer, [1912], *in* Seitz, *Grossschmett. Erde* **5** (131) : 267.

Type : *Pronophila phoronea* Doubleday, [1849].

AMATHUSIIDAE.

Elymnotaenaris Fruhstorfer.

Fruhstorfer, [1911], *in* Seitz, *Grossschmett. Erde* **9** (Exot. 101) : 411.

Type : *Morpho bioculatus* Guérin, 1829.

The name *Elymnotaenaris* Fruhstorfer is available nomenclatorially, but it is not required, since *Morpho bioculatus* Guérin is congeneric with *Taenaris nysa* Hübner, [1819], a form of *Papilio urania* Linnaeus, 1758, the type of *Taenaris* Hübner, [1819].

MORPHIDAE.

Iphimedeia Fruhstorfer.

Fruhstorfer, [1913], *in* Seitz, *Grossschmett. Erde* **5** (Exot. 155) : 335.

Type : *Papilio hercules* Dalman, 1823.

The name *Iphimedeia* Fruhstorfer is invalid, since under Article 35 (a) of the International Code it must be rejected as a homonym of *Iphimedia* Rathke, 1843 (*N. Act. Acad. Caes. Leop. Car.* **20** (1) : 89). It does not require to be replaced, since *Papilio hercules* Dalman is congeneric with *Papilio achilles* Linnaeus, 1758, the type of *Morpho* Fabricius, 1807.

BRASSOLIDAE.

Blepolenis Röber.

Röber, 1906, *Soc. ent.* **21** : 18.

Type : *Caligo batea* Hübner, [1821].

Though available nomenclatorially, the name *Blepolenis* Röber is not required, since *Caligo batea* Hübner is congeneric with *Opsiphanes sallei* Doubleday, [1849], the type of *Opsiphanes* Doubleday, [1849].

Caligo Boisduval.

Boisduval, 1870, *Consid. Lépid. Guatemala* : 54.

Type : *Opsiphanes sallei* Doubleday, [1849].

This name is in the same position as *Antirrhaea* Boisduval (discussed earlier

in the present paper), since in both cases Boisduval took a generic name previously published by another author and republished it as his own. The name *Caligo* Boisduval is invalid, (*a*) because it is a homonym of *Caligo* Hübner, [1819] (*Verz. bek. Schmett.* (4) : 51) and (*b*) because *Opsiphanes sallei* Doubleday is the type of *Opsiphanes* Doubleday, [1849].

Catoblepia Stichel.

Stichel, 1902, *Berl. ent. Z.* **46** : 491.

Type : *Papilio xanthus* Linnaeus, 1758.

Megastes Boisduval.

Boisduval, 1870, *Consid. Lépid. Guatemala* : 53.

Type : *Papilio darius* Fabricius, 1775.

This is another case in which Boisduval republished as his own a name previously published by another author. The name *Megastes* Boisduval is invalid, since it is a homonym of *Megastes* Westwood, [1851] (*in* Doubleday, *Gen. diurn. Lep.* (2) : 346). It does not require to be replaced, since *Papilio darius* Fabricius is congeneric with *Dynastor napoleon* Doubleday, [1849], the type of *Dynastor* Doubleday, [1849].

Pavonia Godart.

Godart, [1824], *Encyc. méth.* **9** (2) (*Ins.*) : 807.

Type : *Papilio idomeneus* Linnaeus, 1758.

The name *Pavonia* Godart is invalid, (*a*) because it is a homonym of (i) *Pavonia* Lamarck, 1816 (*Anim. s. vert.* **2** : 238) and (ii) of *Pavonia* Hübner, [1819] (*Verz. bek. Schmett.* (10) : 157) and (*b*) because *Papilio idomeneus* Linnaeus, 1758, is the type of *Aerodes* Billberg, 1820 (*Enum. Ins.* 79). The name *Aerodes* Billberg, itself, though available nomenclatorially, is not required, since *Papilio idomeneus* Linnaeus is congeneric with *Papilio eurilochus* Cramer, [1775], the type of *Caligo* Hübner, [1819].

NYMPHALIDAE.

Apatura Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 35.

Type : *Papilio bisaltide* Cramer, [1777].

This is a case in which Hübner took a name published by Fabricius and republished it in an entirely different sense. The name *Apatura* Hübner is invalid, since it is a homonym of *Apatura* Fabricius, 1807 (*Mag. f. Insektenk.* (Illiger) **6** : 280). It does not require to be replaced, since *Papilio bisaltide* Cramer is also the type of *Doleschallia* Felder & Felder, 1860.

Callidula Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (5) : 66.

Type : *Callidula pyrame* Hübner, [1819] (= *Papilio pyramus* Fabricius, 1781).

The above type designation renders *Haematera* Doubleday, [1849], an invalid name, since *Haematera thysbe* Doubleday, [1849], the type of the last-named genus, is only a subspecies of *Papilio pyramus* Fabricius, the type of *Callidula* Hübner, [1819].

Catonephele Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 40.

Type : *Catonephele eupalemaena* Hübner, [1819].

The selection of the above species as the type of this genus regularises the present position by which authors, following Scudder (1875, *Proc. Amer. Acad. Arts Sci.* **10** : 136), have treated as the type of this genus *Papilio acontius* Linnaeus, (1771), a species not cited by Hübner. This is only rendered possible by reason of the fact that *Catonephele eupalemaena* Hübner is a synonym of *Papilio acontius* Linnaeus.

Cymothoë Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 39.

Type : *Papilio althea* Cramer, [1776].

The above type designation is in accordance with the current use of this name. The original drawings from which Cramer's figures of *Papilio althea* were drawn have been carefully examined by Mr. N. D. Riley and myself and there is no doubt that those figures represent a female of *Papilio caenis* Drury, [1773].

Epicalia Doubleday.

Doubleday, 1844, *List Spec. lep. Ins. Brit. Mus.* **1** : 90.

Type : *Papilio antiochus* Linnaeus, 1775.

The name *Papilio antiochus* Linnaeus, like *Catonephele eupalemaena* Hübner, is a synonym of *Papilio acontius* Linnaeus. The name *Epicalia* Doubleday is therefore invalid, being a synonym of *Catonephele* Hübner, [1819].

Epicalia Boisduval.

Boisduval, 1870, *Consid. Lépid. Guatemala* : 40.

Type : *Papilio numilia* Cramer, [1775].

This is another case in which Boisduval took a generic name originally proposed by himself in MS., but which had first been published by another author, and claimed it as his own. The name *Epicalia* Boisduval is invalid, since it is a homonym of *Epicalia* Doubleday, 1844. It does not require to be replaced, since *Papilio numilia* Cramer is congeneric with *Catonephele eupalemaena* Hübner (= *Papilio acontius* Linnaeus), the type of *Catonephele* Hübner, [1819].

Epiphile Boisduval.

Boisduval, 1870, *Consid. Lépid. Guatemala* : 40.

Type : *Epiphile epicaste* Hewitson, [1857].

This is another case in which Boisduval's habit of using names in MS. without publishing them led to its being first published by another author (in this case also first by Doubleday). The name *Epiphile* Boisduval is invalid because it is a homonym of *Epiphile* Doubleday, 1844 (*List Spec. lep. Ins. Brit. Mus.* **1** : 90). It does not require to be replaced, since *Epiphile epicaste* Hewitson is congeneric with *Temenis orea* Hübner, [1823], the type of *Epiphile* Doubleday.

Euptera Staudinger.

Staudinger, 1891, *Deuts. ent. Z. Iris* **4** : 98.

Type : *Euptera sirene* Staudinger, 1891.

Eurhinia Felder & Felder.

Felder & Felder, [1867], *Reise Novara Rhopal.* (3) : 405.

Type : *Papilio polynice* Cramer, [1779].

The name *Eurhinia* Felder & Felder is invalid, since it is a synonym of *Rhinopalpa* Felder & Felder, 1860 (*Wien. ent. Monats.* **4** : 399), the type of which is *Rhinopalpa fulva* Felder & Felder, 1860, a synonym of *Vanessa eudoxia* Guérin-Méneville, 1840 (*Rev. Zool.* (*Soc. cuvier.*) **3** : 44), which is a subspecies of *Papilio polynice* Cramer.

Euryphura Staudinger.

Staudinger, 1891, *Deuts. ent. Z. Iris* **4** : 103.

Type : *Euryphene porphyrion* Ward, 1871.

Jaera Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 38.

Type : *Papilio crithea* Drury, [1773].

The name *Jaera* Hübner is invalid, since it is a homonym of *Jaera* Leach, 1815 (*Trans. linn. Soc. Lond.* **11** : 373). It does not require to be replaced since *Papilio crithea* Drury is also the type of *Evena* Westwood, [1850], which is nomenclatorially available.

Leucosticha Rothschild & Jordan.

Rothschild & Jordan, 1903, *Novit. zool.* **10** : 538.

Type : *Papilio daedalus* Fabricius, 1775.

This name is invalid, since *Papilio daedalus* Fabricius is also the type of *Hamanumida* Hübner, [1819].

Morpho Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (4) : 49.

Type : *Morpho omphale* Hübner, [1819].

This name is invalid, since it is a homonym of *Morpho* Fabricius, 1807 (*Mag. f. Insektenk.* (Illiger) **6** : 280). It does not require to be replaced, since the type of *Morpho* Hübner is the same species as the type of *Prepona* Boisduval, [1836].

Neptis Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 42.

Type : *Papilio emilia* Cramer, [1779].

This name is invalid, since it is a homonym of *Neptis* Fabricius, 1807 (*Mag. f. Insektenk.* (Illiger) **6** : 282). It does not require to be replaced, since *Papilio emilia* Cramer is congeneric with *Olina azeca* Doubleday, [1848], the type of *Vila* Kirby, 1871.

Nessaea Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 41.

Type : *Papilio ancaea* Linnaeus, 1767.

Panopea Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (3) : 39.

Type : *Papilio semire* Cramer, [1779].

The name *Panopea* Hübner is invalid, since it is a homonym (*a*) of *Panopea* Menard de la C., 1807 (*Ann. Mus. Hist. nat. Paris* **9** (50–51) : 135) and (*b*) of

Panopea Rafinesque, 1815 (*Analyse* : 135). It does not require to be replaced, since *Papilio semire* Cramer, [1779], is congeneric with *Papilio hirce* Drury, [1782], the type of *Pseudacraea* Westwood, [1850].

Philognoma Doubleday.

Doubleday, 1844, *List Spec. lep. Ins. Brit. Mus.* **1** : 112.

Type : *Papilio decius* Cramer, [1777].

The name *Philognoma* Doubleday is invalid, since *Papilio decius* Cramer is also the type of *Palla* Hübner, [1819].

Phyllophasis Blanchard.

Blanchard, 1840, *Hist. nat. Ins.* **3** : 447.

Type : *Papilio galanthis* Cramer, [1775].

Though available nomenclatorially, the name *Phyllophasis* Blanchard is not required, since *Papilio galanthis* Cramer is congeneric with *Siderone ide* Hübner, the type of *Siderone* Hübner, [1819].

RIODINIDAE.

Agnostogyna Röber.

Röber, 1925, *Stettin. ent. Ztg* **86** : 176.

Type : *Papilio pasiphaë* Cramer, [1775].

The name *Agnostogyna* Röber is invalid, as the type is the same species as the type of *Pandemos* Hübner, [1819].

Amblygonia Felder & Felder.

Felder & Felder, [1865], *Reise Novara Rhopal.* (2) : 308.

Type : *Amblygonia amarynthina* Felder & Felder, [1865].

The name *Amblygonia* Felder & Felder is invalid, since it is a homonym of *Amblygonia* Herrich-Schäffer, [1858], *Samml. aussereurop. Schmett. Heteroc.* : 69 fig. 391 [the plate was published in 1854 but there is no legend to the plate and the name dates therefore from the text published in 1858]. The name *Amblygonia* Felder & Felder does not require to be replaced, since *Amblygonia amarynthina* Felder & Felder is also the type of *Parcella* Stichel, 1910.

Echenais Hübner.

Hübner, [1819], *Verz. bek. Schmett.* (2) : 19.

Type : *Lemonias alphaea* Hübner, [1808] (= *Papilio thelephus* Cramer, [1775]).

The only previous type-designation for this species, that by Scudder (1875, *Proc. Amer. Acad. Arts Sci.* **10** : 161) of *Echenais leucophaea* Hübner, is invalid, since that was only a manuscript name at the time of its publication in the *Verz. bek. Schmett.* and was not validly published until the appearance of pl. [13] of vol. 2 of the *Samml. exot. Schmett.* (*see* Hemming, 1937, *Hübner* **1** : 342, 406).

The name *Echenais* Hübner must now replace *Elaphrotis* Stichel, 1911 (*Gen. Ins.* **112** (B) : 294), of which also *Papilio thelephus* Cramer is the type.

Eurybia Oken.

Oken, 1815, *Lehrbuch Naturgesch.* **3** (*Zool.*) (1) : 733.

Type : *Papilio salome* Cramer, [1775].

The name *Eurybia* Oken is invalid, since it is a homonym of *Eurybia* [Illiger], 1807 (*Allgem. Lit. Ztg, Halle, [Jena]* **1807** (No. 2) : 1180). It does not require to be replaced, since *Papilio salome* Cramer is congeneric with *Limnas halimede* Hübner, [1807], the type of *Eurybia* [Illiger].

(*b*) A new generic name.

NYMPHALIDAE.

Childrena nom. nov. pro *Eudryas* Reuss, 1926, *Int. ent. Z.* **20** : 253.

Type : *Argynnis childreni* Gray, 1831.

The name *Eudryas* Reuss is invalid, since it is a homonym (*a*) of *Eudryas* Boisduval, [1836] (*Roret's Suite à Buffon* (*Lép.*) **1** : explic. pl. 14), (*b*) of *Eudryas* Harris, 1841 (*Ins. Massachusetts* : 310), (*c*) of *Eudryas* Fitzinger, 1843 (*Syst. Rept.* : 26), and (*d*) of *Eudryas* Gistl, 1848 (*Nat. Thierr.* : viii).

BOOK NOTICE.

Cotton Insects of the United States. By V. A. LITTLE and D. F. MARTIN. 4to. Minneapolis (Burgess Publishing Co.). 1942. Price $2.25. pp. iv + 130, illust.

This book is printed in imitation typewriting by the mimeograph process. It is divided in two parts : Insects attacking squares, blooms and bolls, and Pests of the foliage, stems, and roots. The 10 chapters are each devoted to one or more pests and very full treatment is accorded. The boll weevils, for example, receive 21 pages under the headings economic importance, origin, history and present distribution, food plants, description, weevils mistaken for boll weevils, life history, hibernation, dissemination, natural control, climatic control, plant control, diseases, parasitic and predacious insects, birds, artificial control and all known methods of control including those which, having been tried, have proved unsuccessful. A list of literature is added to each chapter and a six-page, double-column, index is provided.

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